

Look for cost savings in IP technology

Nortel Networks recently unveiled its first set of products in a strategy to enable companies to use IP, or Internet protocol, for telephone calls.

To understand what Nortel is doing and why it is important for small-business owners, consider that the world's telecommunications system is undergoing a massive structural change — it is migrating to the technology of the Internet. The result is that within a decade, most telephone calls will be free regardless of destination — a fact that should warm the heart of any entrepreneur.

Let's put this radical claim into perspective. According to a study by Hewlett-Packard Co., communications traffic in North America — fax, phone calls and data — add up to about 200 to 400 gigabits a second or the equivalent of 1.5 to three million telephone conversations. In 1996, the Internet accounted for less than 1 per cent of the continent's telecommunications activity. But by the end of this year, traffic on the Internet is expected to grow to 110 gigabits a second. In other words, more than one-quarter of all North American communications will occur through the Internet.

Internet use is going to keep growing, and is estimated to be doubling every three months. At this rate, the Internet is expected to account for about 90 per cent of total North American communications traffic by 2003, making the traditional "voice-telephone industry" a niche market — if not obsolete.

One reason for this is a belief that a lot of voice and fax transmissions can be routed through the Internet



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at a much lower cost than through traditional networks. That's why Nortel and other companies are betting that the future of telecommunications lies with the Internet. They are building Internet-based telephone technology that will allow calls anywhere in the world for free.

The concept of Internet-based phone calls takes advantage of "the death of distance" — a situation where there is no incremental cost to send a single bit of information from one point on the planet to another. To put things in perspective — using the still primitive Internet telephone technology available today — someone could call a friend in Hong Kong, chat for an hour and not pay anything extra because Internet users pay a flat fee for the on-line connection. If users run out of room, they can simply buy a bit more capacity.

Work into this equation that global telecommunications capacity is exploding. The Hewlett-Packard study indicated that optical fibre is being installed worldwide at an average rate of 80 kilometres an hour, around the clock, every day,

all year round. Each strand of fibre can hold tens of thousands of calls when converted into data or huge chunks of Internet traffic.

Moreover, companies like Nortel are working with technologies such as "dense wave division multiplexing" — something that helps them to squeeze an even greater amount of voice and data onto those tiny fibres. Telecommunications capacity is starting to exceed demand — with the result being that costs are set to plummet.

That means potential cost savings for you. For a glimpse of the future, take a look at Alcom Corp.'s IP Fax (www.alcom.com/ipfax/index.htm). Alcom IP Fax's "unlimited service," at a flat fee of \$29.95 (U.S.) a month, allows users to send and receive as many faxes as they want within the continental United States through the Internet. Expect to see similar services in Canada soon.

A recent study by Dataquest indicated that about 44 million fax pages are sent each year through the Internet. It expects that to grow to 5.5 billion pages by the end of 2000. Perhaps within six months, most people will be able to buy a fax machine that plugs directly into the Internet, letting users take advantage of "the death of distance."

The same thing will happen with voice calls as technology from companies such as Nortel is deployed. Entrepreneurs should keep their eyes and ears open for cost savings as a result of Internet-based telephone technologies.

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